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(54) **Encasing for household appliances**

Gehäuse für Haushaltsgeräte

Carcasse pour appareils ménagers

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EP 2 772 693 B1

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Description

[0001] The invention relates to an encasing for a household appliance.

[0002] Encasings are known, which use multiple sheet metal walls, surrounding and protecting the functional elements of the appliance on several or all sides. These wall elements are attached to each other or to one or multiple frame elements with different techniques, preferably screw joints, which allow for a later reopening of the appliance. This is on one hand important for maintenance, repair and recycling, but on the other hand creates difficulties during the assembly. Every screw requires a certain time during the assembly and almost always additionally requires a pre-cut thread in the wall or frame. Some screws even need a nut and screw retention.

[0003] EP 1 643 189 A2 shows an encasing for household ovens, which is pre-assemblable without screws as it makes use of insertion tongues and corresponding terminal openings. However these elements are easily bent and rendered useless, especially in the rough environment of manual continuous-strip production.

[0004] EP 2390585 A1 "An oven cavity for a cooking oven" relates to an oven cavity (10) for a cooking oven. The oven cavity (10) includes at least one bottom heating element arranged or arrangable below a bottom wall (22) of the oven cavity (10), a protection box (12) for the bottom heating element attached or attachable at the bottom wall (22) of the oven cavity (10), and a cavity flange (14) enclosing at least partially a front opening of the oven cavity (10). A front portion of the protection box (12) is inserted in or insertable into the cavity flange (14). A rear portion of the protection box (12) comprises at least one fastening element (26) connected or connectable to a rear wall (18) and/or a bottom wall (22) of the oven cavity (10). The fastening element comprises plural corners and edges.

[0005] Therefore, it is an object of the invention to create an encasing which comprises wall elements that are easily and quickly fastened to one another and/or a frame

[0006] This object is achieved by the features of claim 1. Preferred embodiments are claimed in the dependent claims.

[0007] The encasing (or: housing, protection box) according to claim 1 is provided and meant for household appliances, especially household cooking appliances or household laundry washing and/or drying appliances or household dish washing appliances, and comprises wall elements connectable at corresponding connection points to each other and/or to a frame. Furthermore, according to claim 1, at least some of the connection points are implemented or formed by one or more corresponding lugs and receiving portion(s) for receiving a corresponding lug at or in the wall elements and/or frame. At least one, preferably each, lug has at most two free edges and/or a single free corner edge, whereas at all other sides of the lug a continuous transition to the wall element or frame is formed, i.e. no free edges can be found or

are formed. For connection, the free edge(s) and/or the single free corner edge of the or each lug at least partially engage or engages with the corresponding receiving portion. The least one, preferably each, lug protrudes from a first plane of the wall element or frame.

[0008] This specific design and construction of the connecting points allows for an efficient and quick coupling of encasing parts with each other or a frame and is easy to manufacture.

[0009] In a preferred embodiment the at least one or each lug is formed by a, preferably L-shaped, recess or cut-out in the wall element or frame, this recess or cut-out extending inwardly from an outer edge of the wall element or frame along the first plane, wherein the at most two free edges and/or the corner edge of the lug are in each case inner edges of the recess or cut out and are arranged at a minimum distance from the outer edge of the wall element or frame.

[0010] Preferably the lug comprises a free front edge, being perpendicular or slightly inclined to a perpendicular direction to the outer edge of the wall element or frame and a free side edge being parallel or slightly inclined to a direction which is parallel to the outer edge of the wall element or frame at a minimal distance from this outer edge. In particular the front edge of the lug is shorter than the side edge. Furthermore, preferably, the front edge and/or the side edge are or is at least mostly straight or linear. In case there is a single free corner edge of the lug this is preferably formed or arranged where the front edge and the side edge meet.

[0011] In a further embodiment the front edge of the lug ends at an inner edge of the recess or cut-out which is spaced at a minimal distance from the outer edge of the wall element or frame and/or the side edge of the lug is spaced at a minimal distance from the outer edge of the wall element or frame, which minimal distance is preferably smaller than the minimal distance of the inner edge of the recess or cut-out from the outer edge of the wall element or frame. Preferably a front edge of the recess or cut-out runs from the inner edge perpendicular to the outer edge of the wall element or frame and/or preferably a rear edge of the recess or cut-out which is preferably curved concavely, connects the side edge of the lug with the outer edge of the wall element or frame.

[0012] In an advantageous embodiment the at least one or each lug has a bent or curved and/or twisted shape which is preferably generated by an embossment having slopes sloping downwards to an indentation of the embossment from the first plane.

[0013] In a further embodiment of the encasing a first wall element extends substantially along a first plane and has at its outer edge a flange bent or arranged perpendicularly to the first plane and a second wall element extends substantially along a second plane which is perpendicular to the first plane and has at its outer edge a flange bent or arranged perpendicularly to the second plane, wherein the lugs are at one of these wall elements and the receiving portions are at the other wall element,

in particular the flange thereof. Preferably in the connected state the first wall element rests on or is in contact with the flange of the second wall element along the first plane and the flange of the first wall element is in contact with the second wall element along the second plane respectively.

[0014] In an advantageous and preferred embodiment the lug and/or receiving portion are or is formed integrally with the corresponding wall element or frame, wherein preferably the wall element(s) and/or frame are made from sheet metal and the lug and/or receiving portion are made integrally from said sheet metal by cutting and/or bending and/or punching or embossing the sheet metal material.

[0015] Preferably the receiving portion(s) is/are formed on one hand by a cut-out or recess in the wall element or frame at its outer edge, preferably in the flange at this edge, and by a neighbouring section of the wall element or frame, in particular of the flange, on the other hand, wherein the lug is inserted into the cut-out or recess of the receiving portion and then moved below the neighbouring section or flange in an engaging or connecting movement, in particular thereby forming a bayonet coupling,

[0016] Preferably the lug abuts or stops at a front edge of the cut-out or neighbouring flange of the receiving portion.

[0017] The recess or cut-out of the receiving portion is in particular formed rectangular and/or is in particular formed by cutting or die-cutting the sheet metal of the corresponding wall element or frame.

[0018] In addition to the connection points with the lugs at some further connection points screw connections can be provided.

[0019] Also claimed according to the invention is a household appliance, especially a household cooking appliance or household laundry washing and/or drying appliance or household dish washing appliance, having an encasing according to the invention.

[0020] The invention is hereinafter further explained by means of exemplary embodiments and reference to the attached drawings.

FIG 1 shows a perspective view of an appliance according to the state of the art,

FIG 2 shows a perspective view of an appliance according to the invention,

FIG 3 shows a detailed slightly downwards perspective view of the connection points in an unmounted state,

FIG 4 and FIG 5 depict an assembly process of a first vertical alignment step and a second horizontal engaging step,

FIG 6 shows a detailed perspective downwards view of two connection points

5 FIG 7 shows a detailed view of a mounting lug from above,

FIG 8 depicts in a sectional view a connected or engaged state of a mounting lug and a receiving portion and

10 FIG 9 and FIG 10 show a detailed lateral and (partially) sectioned view of a latching element

[0021] In FIG 1 a household appliance according to the prior art is shown having an encasing 1 which relies heavily on the usage of screws 60 at connection points to fix the upper wall 10 to the side walls 20, component carrier 50 and a possible inner frame (not depicted). In this embodiment at least six screws 60 are necessary, of which each takes a certain time and certain preparations during the assembly. Additional screws might be needed, to fix the other wall elements onto each other or onto a frame.

[0022] In FIG 2 a household appliance, in particular a household cooking oven or laundry washing and/or drying machine or dishwasher, having an encasing (or: housing, protection box) 1 according to an embodiment of the invention is shown. Here only two screws 60 are used at each side to fix the upper wall 10 as a first wall element to the side wall(s) 20 as second wall element(s) and the component carrier 50. Further screws between the upper wall 10 and the side walls 20 have been replaced with connection points 70 according to the invention.

[0023] The upper wall 10 extends substantially along a first plane P1 and has at its wall edge 110, being an outer edge of the wall element 10, a flange 119 bent or arranged perpendicularly to the first plane P1. Each side wall 20 extends substantially along a second plane P2 which is perpendicular to the first plane P1 and each side wall 20 has at its wall edge 210, being an outer edge of the wall element 20, a flange 219 bent or arranged perpendicularly to the second plane P2.

[0024] In the connected or engaged or mounted state preferably the upper wall 10 rests on the flanges 219 of the side walls 20 along the first plane P1 and the flanges 119 of the upper wall 10 are in contact with the side walls 20 along the second planes P2 respectively, thereby realizing a hooking function between the walls.

[0025] The walls are preferably made from sheet metal and have shapes according to their function including for instance reinforcing embossed or indented portions.

[0026] In FIG 3 and the following figures the connection points 70 according to this embodiment are shown in a more detailed view.

[0027] In the shown embodiments the connection points 70 for connecting two walls each comprise a mounting lug 100 which is at one of the walls, in this case the upper wall 10, and a corresponding co-acting or corresponding receiving portion 200 which is at the other wall, in this case the side wall 20.

[0028] The lugs 100 as well as the receiving portions 200 are preferably made or formed or shaped solely from the sheet metal of the corresponding walls 10 and 20 by cutting and/or bending and/or punching or embossing the sheet metal material.

[0029] In the pre-assembly phase depicted in FIG 3, the upper wall 10 and the side walls 20 are not in contact yet, but already aligned to each other.

[0030] In FIG 4 and FIG 5 the assembly process is shown. In FIG 4 the upper wall 10 is moved downwards in a vertical movement along the vertical arrow shown and the lugs 100 are introduced from above into the receiving portions 200. FIG 5 shows the following forward movement of the upper wall 10 in the engaging direction towards the front along the horizontal arrow shown. During this horizontal engaging movement, a hooking connection or bayonet coupling between the lugs 100 and the receiving portions 200 takes place.

[0031] FIG 6 and 7 show the connection points 70 in further detail. In FIG 8 the connected state is shown in a sectional view.

[0032] The receiving portions 200 are formed by simple cut-outs in the flange 219 at the wall edge 210 of the respective side wall 20, preferably formed by cutting or die-cutting the sheet metal preferably before bending the flange 219, and comprise also a neighbouring section of the flange 219. As seen best in FIG 6 the cut-outs of the receiving portions 200 are preferably formed rectangular and comprise a front edge 213 and a rear edge 211 each running perpendicularly towards the wall edge 210 and a long inner edge 212 being distanced from the wall edge 210 and running parallel to this wall edge 210. The distance between the wall edge 210 and the inner edge 212 leaves enough space for the lug 100 to enter the receiving portion 200.

[0033] The mounting lugs 100 are formed by an approximately L-shaped cut-out 105 in the upper wall 10 extending from the wall edge 110 inwardly along the first plane P1 and are, thus, cut free at two edges only or only have two free edges 112 and 113. Each lug 100 comprises a shorter front edge 113 being perpendicular or slightly inclined to a perpendicular direction to the wall edge 110 and a longer side edge 112 being parallel or slightly inclined to a parallel direction to the wall edge 110 at a distance a from the wall edge 110. FIG 7 shows that the side edge 112 is inclined under the angle β -90°, in this embodiment roughly 5°, with regard to the wall edge 110. This allows for an automatic alignment during the assembly. Furthermore the lug 100 has a free corner edge 125 in between the two free edges 112 and 113, which corner edge 125 is the only free corner of the lug 100. At all other sides of the lug 100 it is still connected

to the wall 10, thus forming a continuous transition to the rest of the wall element 10.

[0034] The front edge 113 of the lug 100 ends at an inner edge 114 of the cut-out 105 which is spaced at a distance $b > a$ from the wall edge 105, which is also the length of a front edge 115 of the cut-out 105 running perpendicular to the wall edge 110. A rear edge 111 of the cut-out 105 which is preferably curved concavely connects the side edge 112 of the lug 100 with the wall edge 110.

[0035] Furthermore, each lug 100 has preferably a bent and/or twisted shape which is preferably generated by an embossment 120 having slopes 116 and 117 sloping downwards to an indentation 118 of the embossment 120 from the plane P1. As best seen in FIG 8, the mounting lug 100 is thus bent downwards from the plane P1 of the substantially plane upper wall 10 and follows in its larger part an inclination α of, in this embodiment, for example approximately 25°. It is also slightly twisted in an angle ε along its extension from the rear edge 111 towards the front edge 113.

[0036] The lug 100 is moved, as can be seen in FIG 8, in the engaging movement with its corner edge 125 and front free edge 113 first or ahead within the cut-out of the receiving portion 200 towards the front edge 213 of the flange 219, as is shown also in FIG 5, and, in the connected state, is then arranged with its corner edge 125 and partially with the free edge 112 and 113 below the flange 219 of the receiving portion 200 at each connection point 70, preferably until the lug 100 abuts or stops at the front edge 213 of the cut-out or neighbouring flange 219 of the receiving portion 200. This way a bayonet connection or coupling is achieved.

[0037] Regularly the fit between the embossment and the inclination is a sliding or interference or shape locking fit, it might however also be a location or transition or force fit, depending on the appliance. Some appliances might expand due to the heat generated inside during usage or might be under strong vibrations due to mechanical functions and thus be improved by a force-locking fit.

[0038] In FIG 9 and FIG 10 a detailed view of an exemplary latching mechanism is shown. In this embodiment, it simply consists of a relatively deep indentation 310, which fits in a corresponding hole 320, which in itself is at the bottom of a smaller indentation. The indentation 310 is formed on the edge of the upper wall 10 and reaches downwards onto the flange 219 of the side wall 20. This flange is formed perpendicular to the substantially flat side wall and reaches in the direction of the inner parts of the appliance. This flange is a narrow plane, preferably of a width between five and fifteen millimetres, which is parallel to the upper wall 20. To enhance the stability, this flange is also folded inwards once. The sheet metal itself is preferably one to three millimetres thick. Depending on this thickness of the material, such a connection point might be stronger than a comparable screw.

List of reference numerals**[0039]**

| | | |
|------------|--|----|
| 1 | Encasing | 5 |
| 10 | Upper wall | |
| 20 | Side wall | |
| 40 | Back wall | |
| 50 | Component carrier | |
| 60 | Screws | 10 |
| 70 | Connection point | |
| 100 | mounting lug | |
| 105 | recess | |
| 110 | wall edge | |
| 111 | rear edge | 15 |
| 112 | side edge | |
| 113 | front edge | |
| 114 | inner edge | |
| 115 | front edge | |
| 116, 117 | slope | 20 |
| 118 | indentation | |
| 119 | flange | |
| 120 | embossment | |
| 125 | corner edge | |
| α | inclination with regard to the substantially plane wall element | 25 |
| β | inclination with regard to the side edge of the plane wall element | |
| ϵ | twisted angle along the extension of the embossment | 30 |
| P1 | first plane | |
| P2 | second plane | |
| a, b | distance | |
| 200 | Receiving portion | |
| 210 | wall edge | 35 |
| 211 | rear edge | |
| 212 | inner edge | |
| 213 | front edge | |
| 219 | flange | |
| 300 | Latching element | 40 |
| 310 | Latching indentation | |
| 320 | Latching hole | |

Claims

1. Encasing for household appliances, especially household cooking appliances or household laundry washing and/or drying appliances or household dish washing appliances,
 - comprising wall elements (10, 20) connectable at corresponding connection points to each other and/or to a frame, said wall elements (10, 20) surrounding and protecting the functional elements of the appliance on several or all sides;
 - wherein at least some of the connection points are implemented by one or more corresponding

lugs (100) and receiving portions (200) for receiving a corresponding lug (100) at or in the wall elements (10, 20) and/or frame,

- wherein at least one, preferably each, lug (100) has at most two free edges (112, 113) and/or a single free corner edge (125), whereas at all other sides of the lug a continuous transition to the wall element or frame is formed,
- wherein the free edge(s) (112, 113) and/or the single free corner edge (125) of the or each lug (100) at least partially engage or engages with the corresponding receiving portion (200) and
- wherein the least one lug (100) protrudes from a first plane (P1) of the wall element (10) or frame.

2. Encasing according to claim 1, wherein the at least one or each lug (100) is formed by a recess or cut-out (105) in the wall element (10) or frame, the recess or cut-out (105) extending inwardly from an outer edge (110) of the wall element (10) or frame along the first plane (P1), wherein the at most two free edges (112, 113) and/or the corner edge (125) of the lug (100) are in each case inner edges of the recess or cut out (105) and are arranged at a minimum distance (a, b) from the outer edge (110) of the wall element (10) or frame.
3. Encasing according to claim 1 or claim 2, wherein the lug (100) comprises a free front edge (113), being perpendicular or slightly inclined to a perpendicular direction to the outer edge (110) of the wall element (10) or frame and a free side edge (112) being parallel or slightly inclined to a direction which is parallel to the outer edge (110) of the wall element (10) or frame at a distance (a) from this outer edge (110), wherein the front edge (113) of the lug (100) is shorter than the side edge (112) and/or wherein the front edge (113) and/or the side edge (112) are or is at least mostly straight or linear.
4. Encasing according to claim 3, wherein the single free corner edge (125) of the lug (100) is formed or arranged where the front edge (113) and the side edge (112) meet.
5. Encasing according to claim 3 or 4, wherein the front edge (113) of the lug (100) ends at an inner edge (114) of the recess or cut-out (105) which is spaced at a minimal distance (b) from the outer edge (110) of the wall element (10) or frame and/or wherein the side edge (112) of the lug (100) is spaced at a minimal distance (a) from the outer edge (110) of the wall element (10) or frame, which minimal distance (a) is smaller than the minimal distance (b) or the inner edge (114) of the recess or cut-out (105)

from the outer edge (110) of the wall element (10) or frame.

6. Encasing according to claim 5, wherein a front edge (115) of the recess or cut-out (105) runs from the inner edge (114) perpendicular to the edge (110) of the wall element (10) or frame and/or wherein a rear edge (111) of the recess or cut-out (105) connects the side edge (112) of the lug (100) with the outer edge (110) of the wall element (10) or frame.
7. Encasing according to any of the preceding claims, wherein the at least one or each lug (100) has a curved or bent and/or twisted shape which is generated by an embossment (120) having slopes (116 and 117) sloping downwards to an indentation (118) of the embossment (120) from the first plane (P1).
8. Encasing according to any of the preceding claims, wherein a first wall element (10) extends substantially along a first plane (P1) and has at its outer edge (110) a flange (119) bent or arranged perpendicularly to the first plane (P1) and a second wall element (20) extends substantially along a second plane (P2) which is perpendicular to the first plane (P1) and has at its outer edge (210) a flange (219) bent or arranged perpendicularly to the second plane (P2), wherein in the connected state the first wall element (10) rests on the flange (219) of the second wall element (20) along the first plane (P1) and the flange (119) of the first wall element (10) is in contact with the second wall element (20) along the second plane (P2) respectively, wherein the lugs (100) are at one of these wall elements (10) and the receiving portions are at the other wall element (20).
9. Encasing according to any of the preceding claims, wherein the lug (100) and/or receiving portion (200) is formed integrally with the corresponding wall element (10, 20) or frame, wherein the wall element(s) and/or frame are made from sheet metal and the lug and/or receiving portion are made integrally from said sheet metal by cutting and/or bending and/or punching or embossing the sheet metal material.
10. Encasing according to any of the preceding claims, wherein the receiving portion(s) is/are formed on one hand by a cut-out or recess in the wall element or frame at its outer edge and by a neighbouring section of the wall element or frame on the other hand, wherein the lug is inserted into the cut-out or recess of the receiving portion and then moved below the neighbouring section or flange (219) in an engaging or connecting movement, wherein preferably the lug (100) abuts or stops at a front edge (213) of the cut-out or neighbouring flange 219 of the receiving portion 200

11. Encasing according to claim 10, wherein the recess or cut-out of the receiving portion (200) is formed rectangular and/or wherein the cut-out or recess of the receiving portion (200) is formed by cutting or die-cutting the sheet metal of the corresponding wall element (20) or frame.

12. Encasing according to any of the preceding claims, wherein at some further connection points screw connections are provided.

13. A household appliance, especially a household cooking appliance or household laundry washing and/or drying appliance or household dish washing appliance, having an encasing according to any of the preceding claims.

Patentansprüche

1. Gehäuse für Haushaltsgeräte, insbesondere Haushaltskochgeräte oder Haushaltswasch- und/oder -trocknungsgeräte oder Haushaltsgeschirrspülgeräte,
 - umfassend Wandelemente (10, 20), die an entsprechenden Verbindungsstellen miteinander und/oder mit einem Rahmen verbunden werden können, wobei die Wandelemente (10, 20) die Funktionselemente des Geräts auf mehreren oder allen Seiten umgeben und schützen;
 - wobei mindestens einige der Verbindungsstellen durch eine oder mehrere entsprechende Laschen (100) und Aufnahmeabschnitte (200) zum Aufnehmen einer zugehörigen Lasche (100) an oder in den Wandelementen (10, 20) und/oder Rahmen implementiert sind,
 - wobei mindestens eine, vorzugsweise jede Lasche (100) höchstens zwei freie Ränder (112, 113) und/oder einen freien Eckrand (125) aufweist, wobei an allen anderen Seiten der Lasche ein kontinuierlicher Übergang zum Wandelement oder Rahmen gebildet wird,
 - wobei der bzw. die freien Ränder (112, 113) und/oder der einzelne freie Eckrand (125) der bzw. jede der Laschen (100) mindestens teilweise mit dem entsprechenden Aufnahmeabschnitt (200) in Eingriff gebracht wird/werden und
 - wobei die mindestens eine Lasche (100) von einer ersten Ebene (P1) des Wandelements (10) oder Rahmens vorsteht.
2. Gehäuse nach Anspruch 1, wobei die mindestens eine oder jede Lasche (100) durch eine Vertiefung oder Aussparung (105) in dem Wandelement (10) oder dem Rahmen gebildet ist, wobei sich die Vertiefung oder Aussparung (105) nach innen von einem äußeren Rand (110) des Wandelements (10)

- oder Rahmens entlang der ersten Ebene (P1) erstreckt, wobei die höchstens zwei freien Ränder (112, 113) und/oder der Eckrand (125) der Lasche (100) in jedem Fall innere Ränder der Vertiefung oder Aussparung (105) sind und in einem Mindestabstand (a, b) vom äußeren Rand (110) des Wandelements (10) oder Rahmens angeordnet sind.
3. Gehäuse nach Anspruch 1 oder Anspruch 2, wobei die Lasche (100) einen freien vorderen Rand (113), der senkrecht oder leicht geneigt zu einer senkrechten Richtung zum äußeren Rand (110) des Wandelements (10) oder Rahmens verläuft, und einen freien Seitenrand (112), der parallel oder leicht geneigt zu einer Richtung verläuft, die parallel zum äußeren Rand (110) des Wandelements (10) oder des Rahmens in einem Abstand (a) von diesem äußeren Rand (110) verläuft, umfasst, wobei der vordere Rand (113) der Lasche (100) kürzer als der Seitenrand (112) ist und/oder wobei der vordere Rand (113) und/oder der Seitenrand (112) mindestens hauptsächlich gerade oder linear ist/sind.
4. Gehäuse nach Anspruch 3, wobei der einzelne freie Eckrand (125) der Lasche (100) dort ausgebildet oder angeordnet ist, wo sich der vordere Rand (113) und der Seitenrand (112) treffen.
5. Gehäuse nach Anspruch 3 oder 4, wobei der vordere Rand (113) der Lasche (100) an einem inneren Rand (114) der Vertiefung oder Aussparung (105) endet, die in einem Mindestabstand (b) vom äußeren Rand (110) des Wandelements (10) oder Rahmens beabstandet ist, und/oder wobei der Seitenrand (112) der Lasche (100) in einem Mindestabstand (a) vom äußeren Rand (110) des Wandelements (10) oder Rahmens beabstandet ist, wobei der Mindestabstand (a) kleiner als der Mindestabstand (b) oder der innere Rand (114) der Vertiefung oder Aussparung (105) vom äußeren Rand (110) des Wandelements (10) oder Rahmens ist.
6. Gehäuse nach Anspruch 5, wobei ein vorderer Rand (115) der Vertiefung oder Aussparung (105) vom inneren Rand (114) senkrecht zum Rand (110) des Wandelements (10) oder Rahmens verläuft und/oder wobei ein hinterer Rand (111) der Vertiefung oder Aussparung (105) dem Seitenrand (112) der Lasche (100) mit dem äußeren Rand (110) des Wandelements (10) oder Rahmens verbindet.
7. Gehäuse nach einem der vorhergehenden Ansprüche, wobei die mindestens eine oder jede Lasche (100) eine gekrümmte oder gebogene und/oder verdrehte Form aufweist, die von einer Erhebung (120) erzeugt wird, die Schrägen (116 und 117) aufweist, die sich nach unten zu einer Einzahnung (118) der Erhebung (120) von der ersten Ebene (P1) neigen.
8. Gehäuse nach einem der vorhergehenden Ansprüche, wobei sich ein erstes Wandelement (10) im Wesentlichen entlang einer ersten Ebene (P1) erstreckt und an seinem äußeren Rand (110) einen Flansch (119) aufweist, der zur ersten Ebene (P1) gekrümmt ist oder senkrecht dazu angeordnet ist, wobei sich ein zweites Wandelement (20) im Wesentlichen entlang einer zweiten Ebene (P2) erstreckt, die senkrecht zur ersten Ebene (P1) verläuft und an seinem äußeren Rand (210) einen Flansch (219) aufweist, der gekrümmt zur zweiten Ebene (P2) verläuft oder senkrecht dazu angeordnet ist, wobei im verbundenen Zustand das erste Wandelement (10) auf dem Flansch (219) des zweiten Wandelements (20) entlang der ersten Ebene (P1) aufliegt und der Flansch (119) des ersten Wandelements (10) mit dem zweiten Wandelement (20) entlang der zweiten Ebene (P2) entsprechend in Kontakt steht, wobei die Laschen (100) an einem dieser Wandelemente (10) sind und die Aufnahmeabschnitte am anderen Wandelement (20) angeordnet sind.
9. Gehäuse nach einem der vorhergehenden Ansprüche, wobei die Lasche (100) und/oder der Aufnahmeabschnitt (200) einstückig mit dem entsprechenden Wandelement (10, 20) oder Rahmen ausgebildet ist, wobei das bzw. die Wandelemente und/oder Rahmen aus einem Blech hergestellt sind und die Lasche und/oder der Aufnahmeabschnitt einstückig aus dem Blech durch Schneiden und/oder Biegen und/oder Stanzen oder Prägen des Blechmaterials hergestellt sind.
10. Gehäuse nach einem der vorhergehenden Ansprüche, wobei der bzw. die Aufnahmeabschnitte einerseits durch eine Aussparung oder Vertiefung im Wandelement oder Rahmen am äußeren Rand und durch einen benachbarten Abschnitt des Wandelements oder Rahmens andererseits ausgebildet werden, wobei die Lasche in die Aussparung oder Vertiefung des Aufnahmeabschnitts eingeführt wird und dann unterhalb des benachbarten Abschnitts oder Flansches (219) in einer Eingriffs- oder Verbindungsbewegung bewegt wird, wobei vorzugsweise die Lasche (100) an einen vorderen Rand (213) der Aussparung des benachbarten Flansches 219 des Aufnahmeabschnitts 200 angrenzt oder daran anschlägt.
11. Gehäuse nach Anspruch 10, wobei die Vertiefung oder Aussparung des Aufnahmeabschnitts (200) rechteckig ausgebildet ist und/oder wobei die Aussparung oder Vertiefung des Aufnahmeabschnitts (200) durch Schneiden oder Stanzen des Blechs des entsprechenden Wandelements (20) oder Rahmens ausgebildet wird.

12. Gehäuse nach einem der vorhergehenden Ansprüche, wobei an einigen weiteren Verbindungsstellen Schraubverbindungen bereitgestellt sind.
13. Haushaltsgerät, insbesondere Haushaltskochgerät oder Haushaltswasch- und/oder -trocknungsgerät oder Haushaltsgeschirrspülgerät, das ein Gehäuse nach einem der vorhergehenden Ansprüche aufweist.

Revendications

1. Enceinte pour appareils électroménagers, notamment appareils électroménagers de cuisine ou appareils électroménagers de lavage et/ou de séchage de linge ou appareils électroménagers de lavage de vaisselle,
- comprenant des éléments formant parois (10, 20) pouvant être raccordés les uns aux autres et/ou à une structure au niveau de points de raccordement correspondants, lesdits éléments formant parois (10, 20) entourant et protégeant les éléments fonctionnels de l'appareil sur plusieurs ou tous les côtés ;
 - dans laquelle au moins certains des points de raccordement sont réalisés par le biais d'une ou de plusieurs saillies (100) et parties de réception (200) correspondantes, ces dernières étant destinées à recevoir une saillie (100) correspondante, au niveau des éléments formant parois (10, 20) ou de la structure ou dans ceux-ci ou celle-ci et/ou
 - dans laquelle au moins une, de préférence chaque, saillie (100) comporte au plus deux bords libres (112, 113) et/ou un bord d'angle libre unique (125), tandis qu'au niveau de tous les autres côtés de la saillie une transition continue avec l'élément formant paroi ou la structure est formée,
 - dans laquelle le ou les bords libres (112, 113) et/ou le bord d'angle libre unique (125) de la ou de chaque saillie (100) viennent en prise au moins partiellement avec la partie de réception correspondante (200) et
 - dans laquelle la ou les saillies (100) font saillie à partir d'un premier plan (P1) de l'élément formant paroi (10) ou de la structure.
2. Enceinte selon la revendication 1, dans laquelle la ou chaque saillie (100) est formée par un évidement ou une échancrure (105) dans l'élément formant paroi (10) ou la structure, l'évidement ou l'échancrure (105) s'étendant vers l'intérieur à partir d'un bord extérieur (110) de l'élément formant paroi (10) ou de la structure le long du premier plan (P1), dans laquelle les au plus deux bords libres (112, 113) et/ou

le bord d'angle (125) de la saillie (100) sont, dans chaque cas, des bords intérieurs de l'évidement ou de l'échancrure (105) et sont placés à une distance minimum (a, b) du bord extérieur (110) de l'élément formant paroi (10) ou de la structure.

3. Enceinte selon la revendication 1 ou la revendication 2, dans laquelle la saillie (100) comprend un bord avant libre (113), perpendiculaire ou légèrement oblique par rapport à une direction perpendiculaire vis-à-vis du bord extérieur (110) de l'élément formant paroi (10) ou de la structure et un bord latéral libre (112) parallèle ou légèrement oblique par rapport à une direction parallèle vis-à-vis du bord extérieur (110) de l'élément formant paroi (10) ou de la structure à une distance (a) de ce bord extérieur (110), dans laquelle le bord avant (113) de la saillie (100) est plus court que le bord latéral (112) et/ou dans laquelle le bord avant (113) et/ou le bord latéral (112) sont ou est au moins essentiellement droit ou linéaire.
4. Enceinte selon la revendication 3, dans laquelle le bord d'angle libre unique (125) de la saillie (100) est formé ou placé à l'endroit où le bord avant (113) et le bord latéral (112) se rencontrent.
5. Enceinte selon la revendication 3 ou 4, dans laquelle le bord avant (113) de la saillie (100) se termine au niveau d'un bord intérieur (114) de l'évidement ou de l'échancrure (105) qui est espacé d'une distance minimum (b) vis-à-vis du bord extérieur (110) de l'élément formant paroi (10) ou de la structure et/ou dans laquelle le bord latéral (112) de la saillie (100) est espacé d'une distance minimum (a) vis-à-vis du bord extérieur (110) de l'élément formant paroi (10) ou de la structure, ladite distance minimum (a) étant inférieure à la distance minimum (b) du bord intérieur (114) de l'évidement ou de l'échancrure (105) vis-à-vis du bord extérieur (110) de l'élément formant paroi (10) ou de la structure.
6. Enceinte selon la revendication 5, dans laquelle un bord avant (115) de l'évidement ou de l'échancrure (105) s'étend du bord intérieur (114) perpendiculaire au bord (110) de l'élément formant paroi (10) ou de la structure et/ou dans laquelle un bord arrière (111) de l'évidement ou de l'échancrure (105) raccorde le bord intérieur (112) de la saillie (100) au bord extérieur (110) de l'élément formant paroi (10) ou de la structure.
7. Enceinte selon l'une quelconque des revendications précédentes, dans laquelle la ou chaque saillie (100) présente une forme incurvée ou courbée et/ou tordue qui est générée par un bossage (120) compor-

tant des parties inclinées (116 et 117) s'inclinant vers le bas par rapport à une cavité (118) du bossage (120) vis-à-vis du premier plan (P1).

8. Enceinte selon l'une quelconque des revendications précédentes, dans laquelle un premier élément formant paroi (10) s'étend essentiellement le long d'un premier plan (P1) et comporte, au niveau de son bord extérieur (110), un rebord (119) courbé ou placé perpendiculairement au premier plan (P1) et un second élément formant paroi (20) s'étend essentiellement le long d'un second plan (P2) qui est perpendiculaire au premier plan (P1) et comporte, au niveau de son bord extérieur (210), un rebord (219) courbé ou placé perpendiculairement au second plan (P2), dans laquelle, dans l'état raccordé, le premier élément formant paroi (10) est en appui sur le rebord (219) du second élément formant paroi (20) le long du premier plan (P1) et le rebord (119) du premier élément formant paroi (10) est en contact avec le second élément formant paroi (20) le long du second plan (P2), respectivement, dans laquelle les saillies (100) se trouvent au niveau de l'un de ces éléments formant parois (10) et les parties de réception se trouvent au niveau de l'autre de ces éléments formant parois (20).
9. Enceinte selon l'une quelconque des revendications précédentes, dans laquelle la saillie (100) et/ou la partie de réception (200) sont formées d'un seul tenant avec l'élément formant paroi (10, 20) correspondant ou la structure, dans laquelle le ou les éléments formant parois et/ou la structure sont constitués de tôle et la saillie et/ou la partie de réception sont réalisées d'un seul tenant à partir de ladite tôle en découpant et/ou en pliant et/ou en poinçonnant ou en emboutissant le matériau de la tôle.
10. Enceinte selon l'une quelconque des revendications précédentes, dans laquelle la ou les parties de réception est/sont formées d'une part par une échancrure ou un évidement dans l'élément formant paroi ou la structure au niveau de son bord extérieur et par une section adjacente de l'élément formant paroi ou de la structure d'autre part, dans laquelle la saillie est insérée dans l'échancrure ou l'évidement de la partie de réception puis déplacée sous la section ou le rebord adjacent(e) (219) par un mouvement de mise en prise ou de raccordement, dans laquelle de préférence la saillie (100) vient buter ou s'arrête au niveau d'un bord avant (213) de l'échancrure ou du rebord adjacent (219) de la partie de réception (200).
11. Enceinte selon la revendication 10, dans laquelle l'évidement ou l'échancrure de la partie de réception (200) est réalisé(e) sous une forme rectangulaire et/ou dans laquelle l'échancrure ou l'évidement de la partie de réception (200) est réalisé(e) en décou-

pant ou en découpant à l'emporte-pièce la tôle de l'élément formant paroi correspondant (20) ou de la structure.

12. Enceinte selon l'une quelconque des revendications précédentes, dans laquelle, au niveau d'autres points de raccordement, des raccordements par vis sont prévus.
13. Appareil électroménager, notamment appareil électroménager de cuisine ou appareil électroménager de lavage et/ou de séchage de linge ou appareil électroménager de lavage de vaisselle, comportant une enceinte selon l'une quelconque des revendications précédentes.

FIG 1

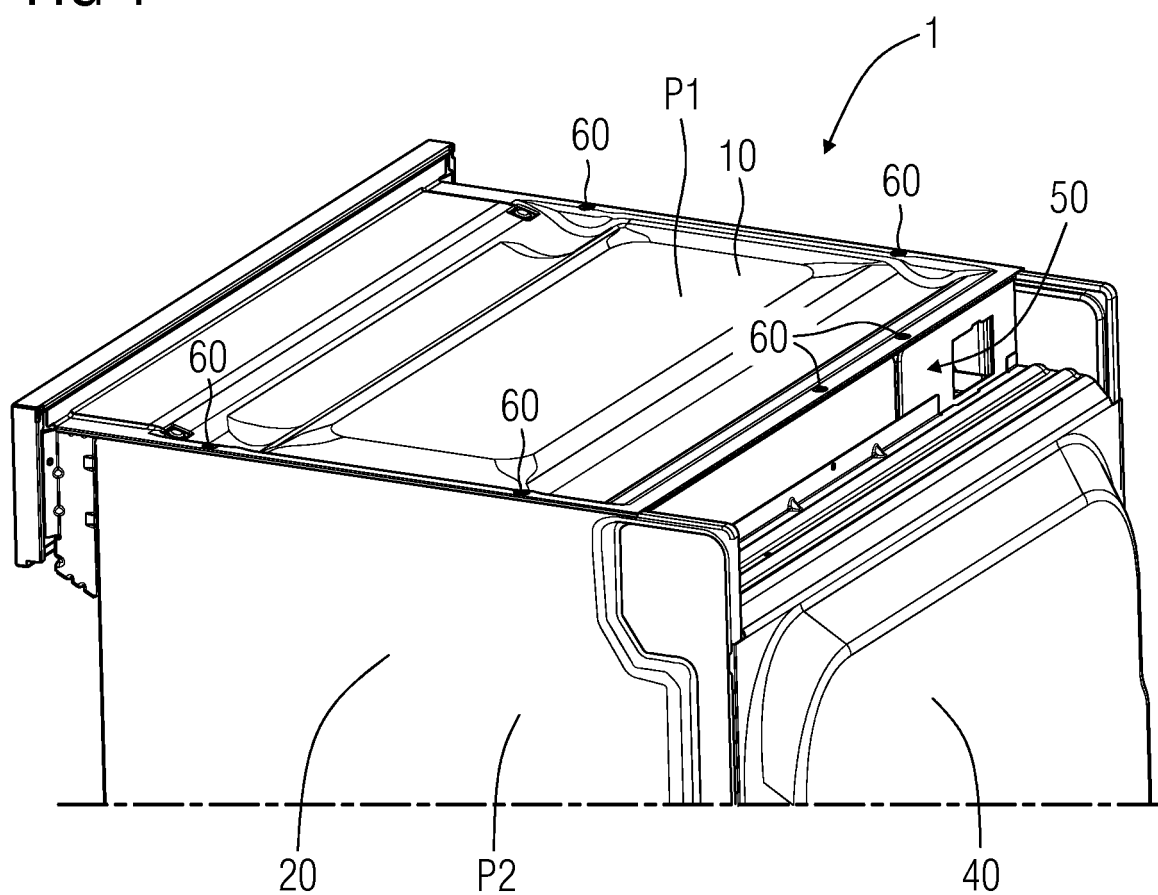


FIG 2

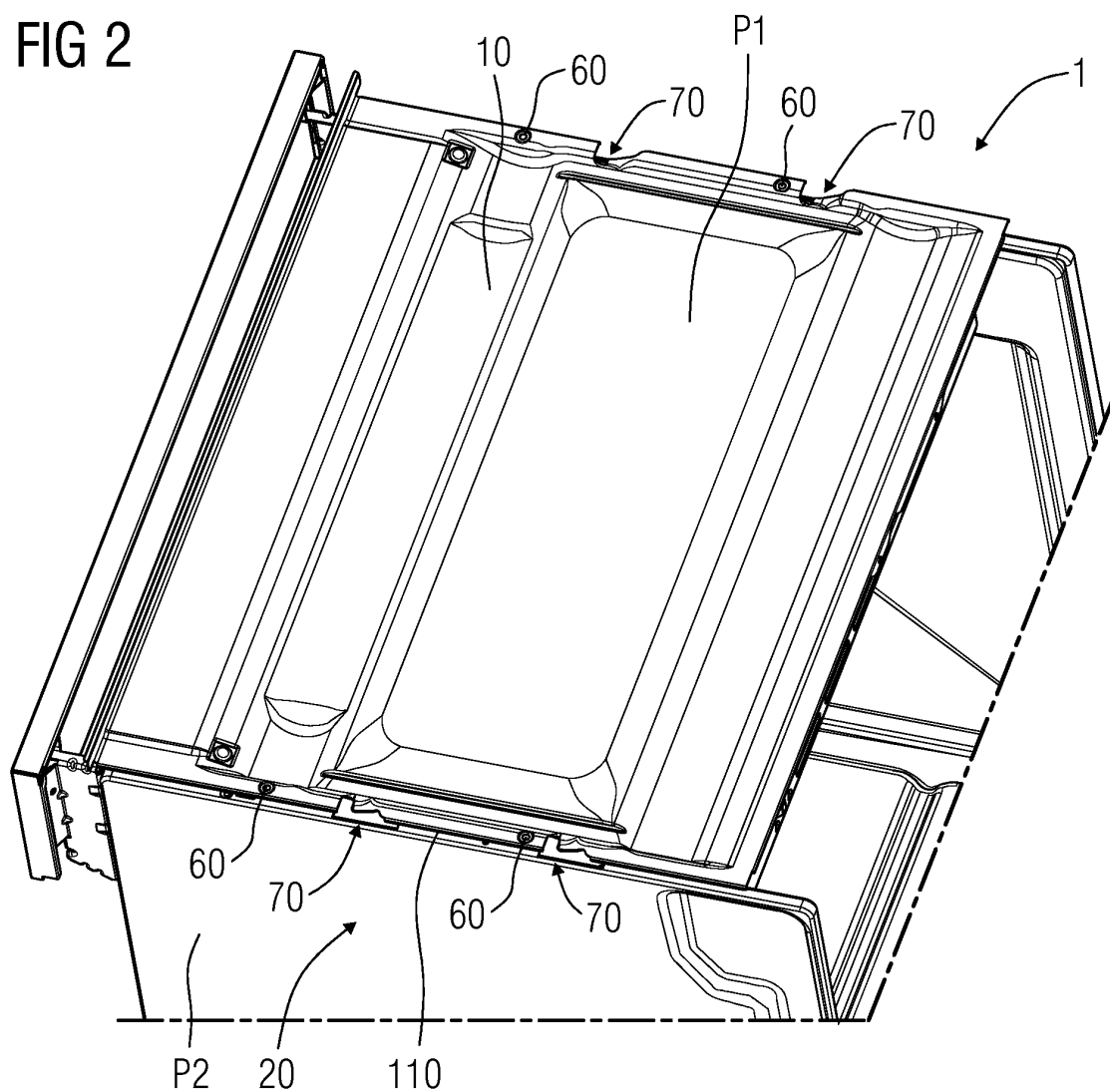


FIG 3

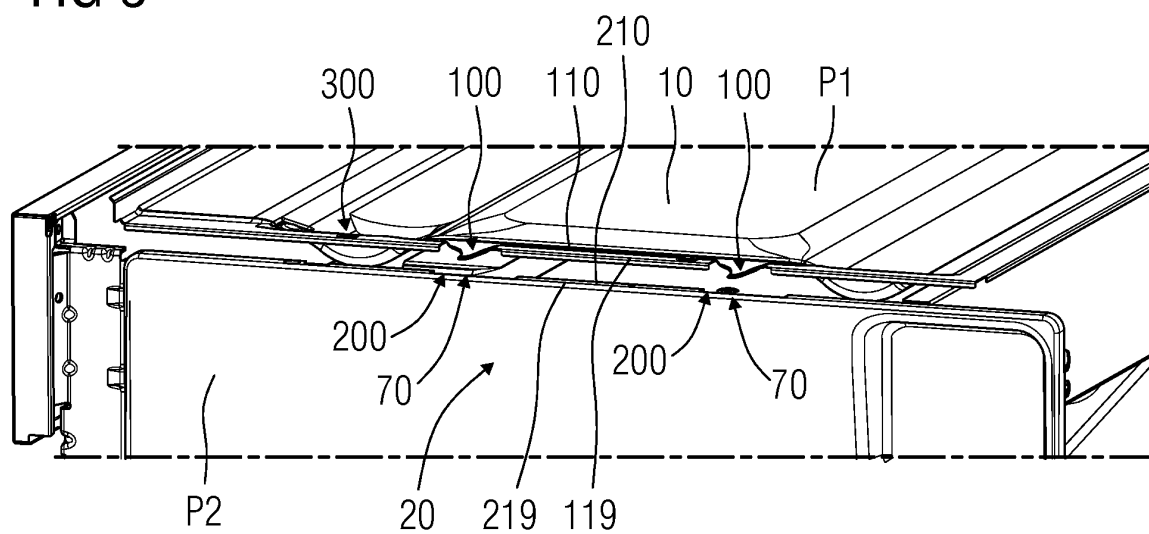


FIG 4

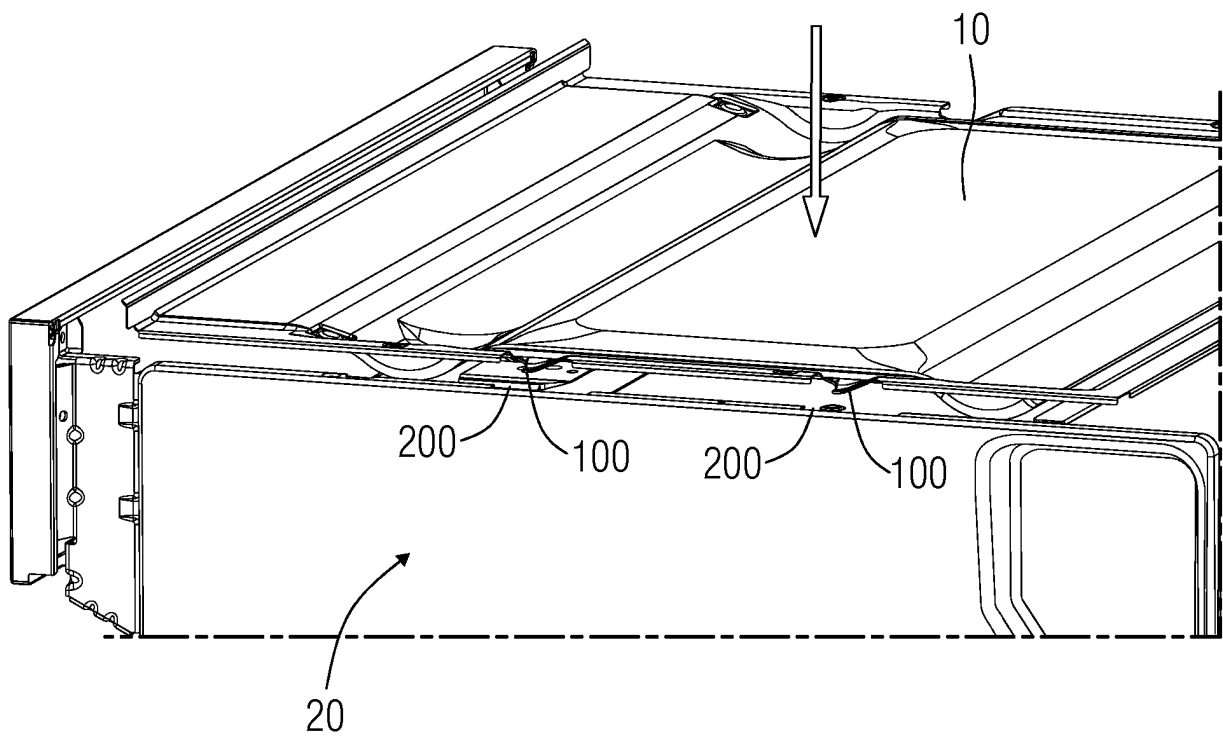


FIG 5

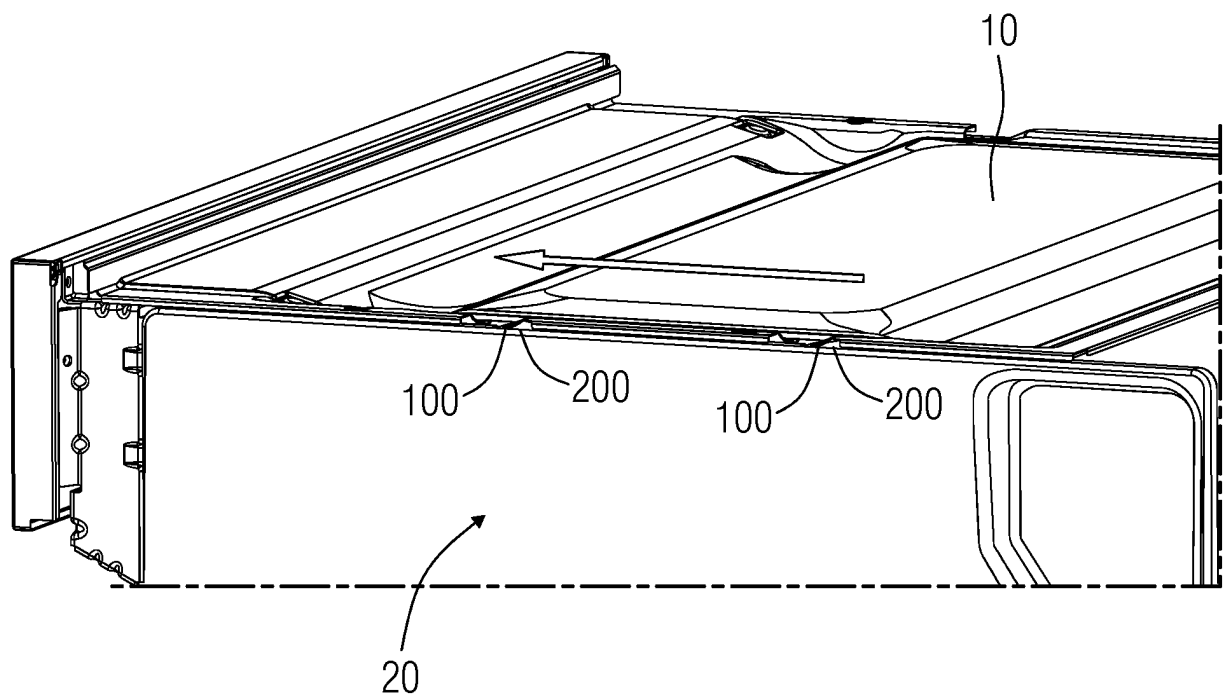


FIG 6

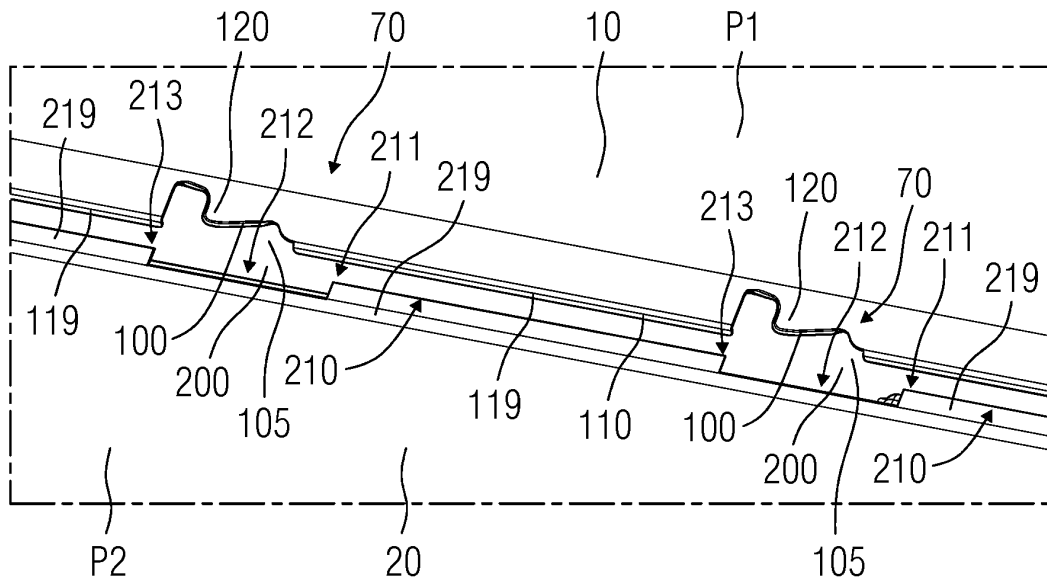


FIG 7

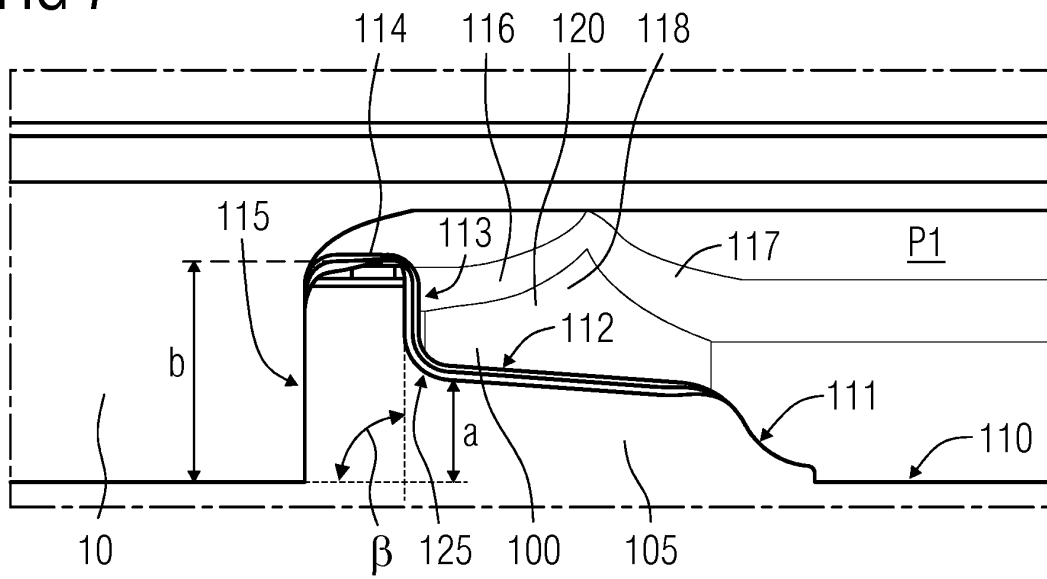


FIG 8

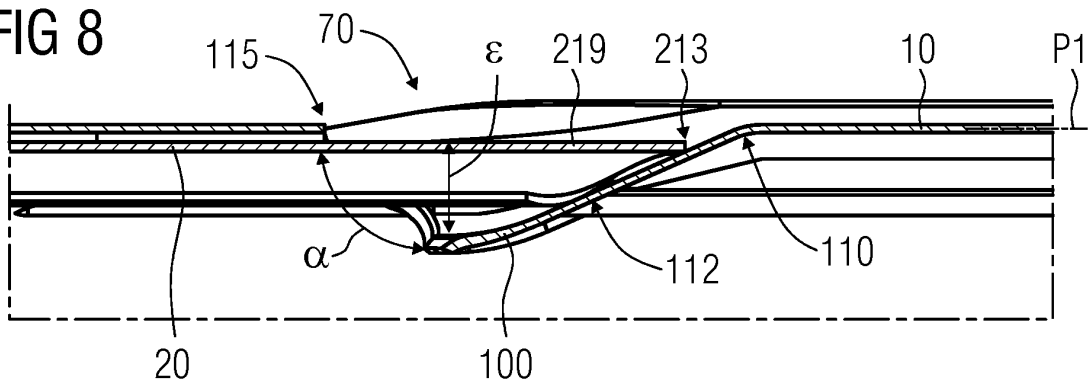


FIG 9

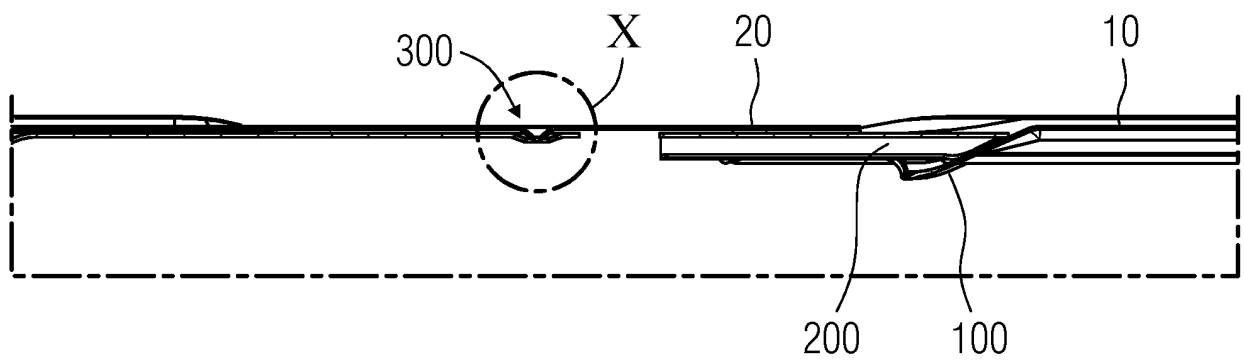
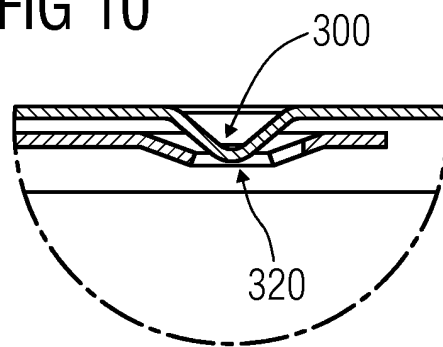


FIG 10



REFERENCES CITED IN THE DESCRIPTION

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